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Serial No. 10/589,376
Response to Office Action dated January 29, 2010

PATENT
Docket: CU-5009

AMENDMENT

Amendments to the Claims

The listing of claims presented below replaces all prior versions, and listings, of claims in the application.

The Applicant wishes to make the following amendments to the claims of the above patent application:

Listing of Claims:

1-6. (cancelled)

7. (currently amended) A cell culture patterning substrate comprising:

a base material;

a cell culture region which is formed on the base material, is a region for culturing a cell and contains a cell adhesive layer having adhesive properties to the cell; and

a cell non-culture region which is a region other than the cell culture region on the base material and inhibits adhesion to [[the]] a cell,

wherein the cell culture region comprises:

a cell adhesion portion at which the cell adhesive layer is formed; and

a cell adhesion auxiliary portion, formed in a pattern, which inhibits adhesion to [[the]] a cell, and

wherein the cell adhesion auxiliary portion has a plurality of portions and is formed such that, upon adhesion of the cell to the cell-adhesion portion, the cells a first cell on a first cell adhesion portion and a second cell on two cells a second cell adhesion portions-portion adjacent to the cell adhesion auxiliary portion the first and second cell can be bound to each other on the cell adhesion auxiliary portion, and [[the]] a plurality of cells on the entire cell culture region can be bound, and

wherein a width of the cell adhesion auxiliary portion is in the range of 0.5 μm to 10 μm and an area of the cell culture region is such that an arrangement of a cell in a center of the cell culture region becomes insufficient or the cell does not adhere

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in the center when the cell is cultured in the cell culture region which does not contain the cell adhesion auxiliary portion.

8. (previously presented) The cell culture patterning substrate according to claim 7, wherein the cell adhesion auxiliary portion is formed in a line form in the cell culture region.

9. (previously presented) The cell culture patterning substrate according to claim 7, wherein a boundary between the cell adhesion auxiliary portion and the cell adhesion portion has a concavoconvex shape with concavoconvex successively formed in a planar view.

10. (previously presented) The cell culture patterning substrate according to claim 8, wherein a boundary between the cell adhesion auxiliary portion and the cell adhesion portion has a concavoconvex shape with concavoconvex successively formed in a planar view.

11. (currently amended) A cell culture patterning substrate comprising:

a base material;

a cell culture region which is formed on the base material, is a region for culturing a cell and contains a cell adhesive layer having adhesive properties to the cell; and

a cell non-culture region which is a region other than the cell culture region on the base material and inhibits adhesion to [[the]] a cell,

wherein a boundary between the cell culture region and the cell non-culture region is a concavoconvex shape with concavoconvex successively formed in a planar view; and further

wherein the distance between an edge part of the concave portion and an edge part of the convex portion of the concavoconvex, upon adhesion of [[the]] a

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plurality of cells ~~[[cell]]~~ to the cell adhesive layer, is a size that the cells are aligned linearly; and further

wherein an area of the cell culture region is such that a cell cannot arrange regularly when the boundary between the cell culture region and the cell non-culture region is a straight line.

12. (cancelled)

13. (previously presented) The cell culture patterning substrate according to claim 11, wherein the average distance, between the edge part of the concave portion and the edge part of the convex portion of the concavoconvex, is in the range of 0.5 μm to 30 μm .

14. (cancelled)

15. (previously presented) The cell culture patterning substrate according to claim 9, wherein the concavoconvex shape is a right-angled concavoconvex.

16. (previously presented) The cell culture patterning substrate according to claim 11, wherein the concavoconvex shape is a right-angled concavoconvex.

17. (currently amended) The cell culture patterning substrate according to claim 7, wherein the cell adhesive layer contains a cell adhesive material ~~which~~ wherein the cell adhesive material has cell adhesive properties and is capable of being decomposed or denatured by the action of a photocatalyst upon irradiation with energy.

18. (previously presented) The cell culture patterning substrate according to claim 7, wherein the cell adhesion auxiliary portion contains a cell adhesion-inhibiting material

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which has cell adhesion-inhibiting properties and is capable of being decomposed or denatured by the action of a photocatalyst upon irradiation with energy.

19. (previously presented) The cell culture patterning substrate according to claim 11, wherein the cell adhesive layer contains a cell adhesive material which has cell adhesive properties and is capable of being decomposed or denatured by the action of a photocatalyst upon irradiation with energy.

20. (currently amended) The cell culture patterning substrate according to claim 11, wherein the cell non-culture region contains a cell adhesion-inhibiting material ~~which~~ wherein the cell adhesion-inhibiting material has cell adhesion-inhibiting properties and is capable of being decomposed or denatured by the action of a photocatalyst upon irradiation with energy.

21. (currently amended) A cell culture patterning substrate comprising:

a base material;

a cell culture region which is formed on the base material, is a region for ~~cultureing~~ culturing a cell and contains a cell adhesive layer having adhesive properties to ~~[[the]]~~ a cell; and

a cell non-culture region which is a region other than the cell culture region on the base material and inhibits adhesion to ~~[[the]]~~ a cell

wherein the cell culture region comprises:

a cell adhesion portion at which the cell adhesive layer is formed; and

a cell adhesion auxiliary portion, formed in a pattern, which inhibits adhesion to a cell, and,

wherein the cell adhesion auxiliary portion is formed such that, upon adhesion of ~~[[the]]~~ a plurality of cells ~~[[cell]]~~ to the cell adhesion portion, the cells on the cell adhesion portion adjacent ~~[[via]]~~ to the cell adhesion auxiliary portion can be bound to each other on the cell adhesion auxiliary portion, and ~~[[the]]~~ cells on the entire cell culture region can be bound, and

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wherein a width of the cell adhesion auxiliary portion is in the range of
0.5 μ m to 10 μ m and an area of the cell culture region is such that an arrangement
of a cell in a center of the cell culture region becomes insufficient or a cell does not
adhere in the center when a cell is cultured in the cell culture region which does not
contain the cell adhesion auxiliary portion.